

WHAT IS CLAIMED IS:

1 A system for moving substrates in and out of a manufacturing process, comprising:

an automatic transfer device for automatically transferring a cassette that stores substrates;

5 a manual transfer device for transferring a cassette that stores substrates according to an instruction of an operator; and

a process apparatus that performs a job on the substrate stored in the cassette,

10 wherein when the cassette arrives, the process apparatus determines that the cassette has been transferred by the automatic transfer device, or by the manual transfer device.

2. The system of claim 1, wherein said process apparatus comprises:

15 a port on which the cassette is temporarily placed by the automatic transfer device or the manual transfer device;

a loader that has a sensor to receive a communication start signal transferred from the automatic transfer device when the cassette is transferred by the automatic transfer device; and

20 a job table where the substrate from the cassette is placed for a job process.

3. The system of claim 2, wherein said loader further comprises a cassette ID reader to read cassette IDs when the cassette is placed on the port.

4. The system of claim 3, wherein the loader automatically chucks the cassette and reads the cassette ID with the cassette ID reader when the

cassette is transferred by the automatic transfer device and

wherein the loader chucks the cassette according to the instructions of the operator and reads the cassette ID with the cassette ID reader when the cassette is transferred by the manual transfer device.

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5. The system of claim 4, wherein the port has a substrate detecting sensor to detect the number of the substrates stored in the cassette and the position of the slots on which the substrates are stored.

6. The system of claim 4, wherein the process apparatus further comprises a transfer robot that removes the substrates from the cassette on the port and transfers the substrates to the job table.

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7. A method for moving substrates in and out of a manufacturing process using a system comprising an automatic transfer device for automatically transferring a cassette that stores substrates, a manual transfer device for transferring the cassette according to an instruction of an operator, and a process apparatus for performing predetermined jobs on the substrate stored in the cassette, the process apparatus including a loader having a port on which cassettes transferred by the automatic transfer device and the manual transfer device are placed, and a job table on which predetermined jobs on the substrate stored in the cassette on the port are performed, comprising the steps of:
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(a) transferring the cassette to the process apparatus through the automatic transfer device or the manual transfer device when the port is available;

(b) transmitting a communication start signal to the loader by the

automatic transfer device when the cassette is transferred to the process apparatus through the automatic transfer device;

(c) loading the cassette to the port from the automatic transfer device;

(d) loading the cassette to the port according to the instruction of the operator when the cassette is transferred to the process apparatus through the manual transfer device in step (a);

(e) determining whether the cassette is detected on the port;

(f) determining whether the communication start signals is detected when the cassette is detected on the port; and

(g) setting the process apparatus in an automatic transfer mode when the communication start signal is detected, and setting the process apparatus in a manual transfer mode when the communication start signal is not detected.

8. The method of claim 7, wherein step (c) comprises the steps of:

determining whether the communication start signal is received;

requesting a cassette loading to the automatic transfer device when the communication start signals is received; and

loading the cassette to the port according to the request.

9. The method of claim 8, wherein the method further comprises the steps of:

(h) automatically chucking the cassette when the process apparatus is set in the automatic transfer mode and chucking the cassette according to the instructions of the operator when the process apparatus is set in the manual transfer mode;

(i) reading the cassette ID of the cassette using the cassette ID reader

on the loader; and

(j) checking a position and a number of the glass substrates in the cassette on the port.

in step (g);

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